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NATIONAL, PROVINCIAL, AND LOCAL NUTRITION PROGRAMS IN CANADA[1]

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In discussing nutrition, I will deal with the matter on a National, Provincial (comparable to State), and local basis to give you an idea of the type of program which is now being undertaken in Canada.

In 1939, under the auspices of the Canadian Council on Nutrition, a survey was conducted to ascertain the eating habits of a cross section of our population. This survey was conducted in the cities of Halifax, Quebec, Toronto, and Edmonton. The survey was not the type often carried on by agricultural departments, boards of trade, and chambers of commerce, in which food consumption is computed from the amounts produced, imported, and sold. Nor was it the family inventory method, where the determination is made from the amount of food consumed by the entire family.

The data were collected from volunteer families on an individual basis within the family. Home economics teachers and nutritionists visited each home of the families that had signified willingness to cooperate in the survey. The mother, in cooperation with the workers, ascertained the actual amount of food (by weight) consumed by each member of the family, on scales provided by the nutritionist. The nutritionist visited the home periodically during the survey. The standard of food requirements was the amount recommended by the Canadian Council on Nutrition checked with authorities in the United States. It was assumed that anything under 70 percent of the accepted requirements showed a definite shortage. Protein, calcium, iron, the different vitamins, etc., were all checked. Thus, 70 percent or less of the recommended allowance was considered a deficiency.

The results of this survey showed 40 percent of the population to be on the border line. Forty percent were not getting a sufficient amount of the proper foods according to the accepted standards. And only 20 percent were receiving amounts of food considered adequate to provide the normal requirements of the body.

In 1941 a division of the Federal Department of Pensions and National Health in Ottawa was set up, and this division is now known

[1] Read before the Fifty-Eighth Annual Conference of State and Provincial Health Authorities of North America, March 23, 1943, Washington, D. C.

as our National Nutrition Services. The division is under the direction of Dr. L. B. Pett, a physician also trained in agriculture and biochemistry. The staff includes, in addition, an assistant nutritionist and three field workers.

The first interest of Nutrition Services was the war industries. Its aim was to encourage management and labor to take an active interest in the eating habits of workers, both in the plants and the homes. Where it was not economically sound to provide cafeteria service, management was urged to make available suitable accommodations where workers could eat their lunches. Some supervision of the food consumed by the workers was advocated.

The bulk of the work done by Nutrition Services for the first year consisted of that in industrial plants, plus the preparation of materials that could be utilized through the nine Provinces in the development of nutrition programs. The Nutrition Services advocates a broad national nutrition policy and uses every means possible to bring it to the attention of the people, including advertising, radio, etc. The Provinces agree to follow these broad policies and are developing programs designed to activate the policies.

All research and technical material is being developed through national resources in cooperation with other countries and with other nutritional agencies. Such work will not be left to the individual Provinces. Consultation services are also provided on a national basis.

Provincial nutrition committees have been organized in all but three of the nine Provinces. Some time ago, the Province of Quebec appointed a nutritionist to work in conjunction with the Provincial health department. She was the first nutritionist to be appointed to the staff of a Provincial health department. I am pleased to say that our Province, British Columbia, was the second Province to add a nutritionist to the health department staff. In the other Provinces, nutritionists who are employed by the education services, agriculture departments, etc., are being utilized to help with the Provincial program.

I discuss the program in British Columbia without any apologies because it presents an example of the possible variation in methods that can be utilized, without deviating from the policies set down by National Nutrition Services, and because I know more about that particular program than I do about any of the other Provincial programs.

Following the appointment of the public health nutritionist in October 1942, a committee was formed—the Provincial nutrition committee—with the Provincial health officer as chairman, and the nutritionist as secretary. This committee consists of well chosen nontechnical people who represent as far as possible the leaders in

the Province. There are some 13 or 14 members at the present time and more can be added if necessary. In addition to this Provincial nutrition committee we also have appointed a technical advisory committee which is composed entirely of technical personnel in various related fields, including dietitians, home economics teachers, industrial nutritionists, agriculture specialists, public health and other technical persons as available.

The reason for the two committees was to prevent the Provincial nutrition committee from becoming a debating ground on the technical phases of nutrition. Nutrition Services in Ottawa has formulated Canada's official food rules, and set broad policies as stated before. Our aim at the present time is to stimulate as many of the people as possible to live up to those rules. This applies whether they eat in their own homes, in restaurants, or carry their lunches to work, and it is hoped that they can be induced to apply these simple rules of good nutrition. Plans are formulated so as not to confuse the public with a lot of technical and changing knowledge about the intricacies of nutrition. We wish to try to interest them in the effective use of food. There are many difficulties, due to food shortages, local or national, where intelligent guidance is always needed.

Following the appointment of the Provincial committee, the Canadian Red Cross appointed a nutritionist to work in cooperation with the Provincial nutritionist throughout British Columbia. Therefore, we now have two nutritionists whose full time is occupied in furthering this program on a joint basis. The Red Cross naturally is represented on the Provincial committee.

The program has already been started in the Okanagan Valley, the rich fruit producing area, under the supervision of the local health unit, and the local health unit director is chairman of the committee. He has utilized most of the suggested methods and policies outlined by the Nutrition Services, but has developed in addition a slightly different method of community organization, using a modified "block system."

In the Okanagan Valley, the first step was a very rapid survey of the lunches of the school children, and in addition the food consumed for breakfast and the evening meal before. It is surprising that even this very sketchy appraisal gave the same figures that the national study had given—40–40–20—and yet the Okanagan Valley is the richest fruit and vegetable producing part of the Province. The lunches, breakfasts, and dinners or suppers of the children were very much of the same type as those of persons living in cities. This method brought home to the local people the need for taking a greater interest in the nutrition of their children.

This local committee has, with the help of the Provincial nutritionist, prepared four nutrition bulletins. These are distributed to

parents through the schools, the well baby clinics, and through any other source by which they can get to the homes. These bulletins outline certain simple little points that it is felt will help the mother provide more nourishing food for her family. There is nothing complicated or technical about the bulletins. The last one is in the form of a questionnaire which is to be returned, and from which it is hoped that the problems each mother has to deal with in her own home will be found. It is planned to help with these problems through the public health nurses and home economics teachers in the area, with the aid of the committee.

At the same time a well balanced lunch program is being carried on in the schools. Lunch programs are now also in progress in various industrial plants in British Columbia.

When the public health nurses meet for their 4-day conference just before Easter this year a large proportion of the available time is going to be devoted to nutrition. During that time the nurses will be given an explanation and detailed methods of the various programs that are then in operation. In addition, they will be given material that will help them to go out and "sparkplug" their local communities to create an active interest in a nutrition program.

Last year when the public health nurses met they were prepared for this program by a series of talks by Dr. Jennie Rowntree of the University of Washington who is an excellent lecturer on nutrition. The Provincial nutritionist, aided by the nutritionist from the Red Cross, will act as consultant to the local public health nurses, home economics teachers, dietitians, and the committees and local groups, and help them get their programs into operation.

There is nothing complicated or difficult about this program. It will include victory gardens, food production, conservation of food, and the various methods of food preservation, preparation, and serving, that can be used. Dehydration will likely have to be used extensively as a means of preservation. Our agricultural experimental farms have developed methods of home dehydrating without expensive equipment. This will aid in meeting the shortages of cans and jars and the other problems, including sugar, related to canning methods and the preservation of food.

It is hoped that we can at least improve the situation as it now stands and that more people will provide the foods they require for good nutrition. If we can help the people at a time when good nutrition is becoming more and more difficult, and yet essential too in an all-out war effort, some of their most urgent nutritional problems will have been met. We must help them to solve the problems that they meet in the every day surroundings of their own homes and communities.

A COOPERATIVE NUTRITION PROGRAM IN NORTH CAROLINA[1]

By JOHN F. KENDRICK, M. D.[2]

The field of nutrition is broad. It touches every phase of modern life. The range between the highest possible level of nutrition and the starvation state is wide, and within that range are to be found many levels or degrees of nutritional status. These levels are dependent upon numerous factors which operate to produce nutrition problems. These responsible factors include: Social, economic, industrial, educational, agricultural, medical, and public health considerations.

We are all familiar with the much quoted estimate that no less than a third of the Nation has poor diets (*1*). Likewise we are familiar with the alleged relationship between poor nutrition and the physical unfitness of men rejected by our war examining boards (*2*), as well as with the numbers of school children found with defects which seem to be primarily of dietary origin. If we had at our command more precise techniques and methods of measuring concentrations in the body of dietary factors known to be essential, perhaps such estimates as are now possible would need to be revised either upward or downward. But in spite of the imperfection of our knowledge of nutrition and of our methods of appraising the nutritional status of population groups, there are convincing indications that a high prevalence of malnutrition of varying degrees of severity exists throughout the Nation.

Clearly defined nutritional diseases such as pellagra, rickets, scurvy, and beriberi were recognized long ago as public health problems. The challenge that these diseases presented was accepted by medical and health workers, and great progress has been made in controlling them. More recently dietary studies of individuals and groups, careful medical examinations, and special laboratory tests have made it possible to detect certain early or preclinical nutrition deficiencies which previously had not been clearly discernible. This work has made it clear that many obscure complaints are due, wholly or in part, to dietary deficiencies not severe enough to produce the classical picture of any known disease.

The habitual intake even of suboptimal amounts of nutrition essentials contributes to the improper functioning of body processes, to lowered resistance, to ill health, and lessened efficiency, and places

[1] Read before the Fifty-Eighth Annual Conference of State and Provincial Health Authorities of North America, March 23, 1943, Washington, D. C.

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upon those responsible for the welfare of the public a demand they cannot afford to ignore. Even with the frank admission that there is much still to be learned about nutrition, including a more exact knowledge of the incidence, severity, and distribution of malnutrition and the factors contributing to it, there seem to be few logical reasons for further delay in the application of measures which in the light of such knowledge as we now have offer promise of magnificent returns in terms of human health, efficiency, and happiness.

Statements purporting to acquaint the public with the magnitude and the seriousness of the problem of malnutrition existing in the United States have been broadcast throughout the Nation by all known channels of communication. Some of these messages have emanated from qualified experts, some have come from persons less well qualified, while others have been strongly suggestive of unadulterated propaganda. These intensive efforts, with a host of other activities which were intended to exert some influence on the nutrition of the people, have caught the public imagination and have created a public desire for some sort of action.

The nutrition problem obviously is one that cannot be solved by any single agency working alone. Fortunately, for a long time a number of agencies have recognized the contribution that improved food habits could make to the public health and have attacked the problem from different angles. Since these agencies were organized to perform specialized services of one kind or another, it was natural that the approach of each to the nutrition problem would be different. Some of these have accomplished gratifying results. Yet there has been a growing recognition among them of the fact that a knowledge of the activities of other agencies seeking the same objectives, plus the application of teamwork or coordinated action by all groups concerned, offers possibilities of far greater accomplishments. The war has crystallized this attitude.

Under national leadership, nutrition committees have been set up in States, counties, and cities, and plans have been made to promote better nutrition through them. North Carolina like all other States has adopted this general form of organization as a logical method of attacking its wartime nutrition problem as well as providing the framework for the conduct of a peacetime nutrition program.

Five considerations were uppermost in connection with the effective organization and operation of these State and local committees in North Carolina: (1) Measures designed only for the purpose of meeting the war emergency are not likely to solve fundamental nutrition problems which existed before the war, and which had no relation to it. Emergency plans and operations may serve to prevent lowering of the present nutritional status, and they may even produce some ameliora

tion. But a satisfactory approach to the solution of the problem may be expected only as a result of work over a long period of time. (2) As a step to insure continuation of service after the war, it was regarded as highly important that the membership of the State committee include the directors of those State services, and Federal services operated in the State, that perform any kind of nutrition work or have a special interest in nutrition. These directors have representatives throughout the State and our thought was that sustained interest at the top would be reflected throughout the entire service. These local representatives, of course, should be members of county and city committees and should take prominent parts in these local nutrition programs. (3) A high degree of cooperation among these groups and of coordination of their nutrition services would be of the utmost importance. (4) It should be clear to all concerned that the purpose of these committees is not to usurp any of the functions of groups already operating in the field of nutrition. The purpose is rather to amplify and intensify those services, to discover needs that are not being met and to provide machinery for meeting them, and to coordinate all activities into a well-rounded nutrition program. (5) The contributions that may be made to nutrition services by professional and lay groups, as well as the government groups already referred to, should not be overlooked. These should have representation on committees, and their services should be utilized as fully as possible.

These committees are the focusing point of all groups that participate in the nutrition program. What is sought is a cooperative nutrition enterprise which can fully utilize the services of all agencies which can participate advantageously in the attainment of the established objectives.

A North Carolina State Nutrition Committee, which will be referred to later, was organized in January 1940 for the purpose of undertaking to assess the nutritional status of population groups in communities of the State, and also to carry on appropriate nutrition research. As war clouds began to gather, public interest in nutrition increased. The President called a National Nutrition Conference in May 1941, and in the following July the State committee membership was enlarged, and its original "assessment and research" program was supplemented by plans to include the promotion of State-wide nutrition improvement activities.

The State nutrition committee is composed of 62 members, representing government departments (State and Federal), nutritionists and other scientists, voluntary agencies, home economics departments of colleges in the State, home economics women in business, and others interested in nutrition. The functions of the committee are advisory,

not administrative. As coordinator of nutrition activities, the State committee attempts to keep its constituent groups informed about the work of various agencies in the State so as to promote coordinated efforts and avoid duplication.

The directors of seven State or Federal departments are members of the committee, and compose within it what is known as the administrative board. The departments represented are: Agriculture, Agricultural Extension Service, Education, Health, Welfare, Farm Security Administration, and Work Projects Administration. This is the policy-forming board of the committee, and it also serves the important function of bringing their local representatives into the same relation with local nutrition committees as they themselves have with the State committee. Knowledge that a State director approves and supports the cooperative nutrition program goes a long way toward securing the support of local programs by his representatives.

Perhaps the most important function of the State nutrition committee has been the promotion of county organizations and the supplying of advisory services to these committees. The plan of organization recommended to counties provided for a nutrition committee in each county with subcommittees identical with the subcommittees of the State nutrition committee, namely:

1. Publicity and information.
2. Food production.
3. Food conservation and utilization.
4. Public health and clinical nutrition services.
5. Education in nutrition through the regular school program, through the school lunch program, and for adults.
6. Nutrition services for industrial groups.

To date (March 1943) 85 of the 100 counties of the State have organized under this plan. In addition to their own local programs, these committees have taken an active part in the share the meat campaign, in the victory garden program, and in a State-wide food preservation program, which the State nutrition committee is promoting this month.

Although it should be done, it is not within the scope of this paper to attempt to outline the established policies, functions, and activities of each of the agencies offering nutrition services in North Carolina. Suffice it to say that each cooperating agency has intensified its nutrition activities and has coordinated them with the cooperative program. Most of those at this conference, however, are health officials who realize that health departments are the principal agencies, on either State or local levels, which can apply public health concepts to nutrition programs. So, in view of your special interest in the role of health departments in these programs, the remainder of this paper will be

devoted to steps that have been taken or are being taken by the North Carolina State Board of Health to render appropriate services in this field.

The maintenance of health is the primary reason for the existence of health departments, and since nutrition is an important factor in the maintenance of health, it is obvious that State and local health departments must take an active part in formulating the programs of nutrition committees as well as in the carrying out of these programs. Certainly upon health departments should fall responsibility to share in nutrition research and to conduct surveys or studies to define existing nutrition problems. Health departments also should assist in directing all activities along sound scientific channels and in restraining tendencies of overzealous workers to claim for nutrition more than scientific facts would reasonably justify.

The North Carolina State Board of Health is fully aware of the importance of nutrition to public health. It also recognizes that the department has a responsibility to fulfill in this field which can be neglected no longer nor delegated to some other agency. The divisions of preventive medicine and oral hygiene have emphasized nutrition in their work for a decade or more, but both have been handicapped by the absence of nutritionists among the personnel of the State board of health.

In 1939 the State board of health took two significant steps toward the assumption of its responsibilities in the field of nutrition. The first of these was the organization of a school health coordinating service, sponsored jointly by the State board of health and the State department of public instruction. The second was the completion of plans for the inauguration of a cooperative nutrition study to be conducted under the auspices of the State board of health, Duke University, and The Rockefeller Foundation.

The school health coordinating service includes on its staff a nutritionist whose primary function is to study and improve the food habits of children in the public schools of the State. The nutritionist gives her entire time to this work throughout the school year. Beginning in 1940, the coordinating service has conducted child health courses and conferences in two white and two Negro colleges each summer. Each of these conferences lasts six weeks. During this time teachers, principals, and health workers study intensively those factors which affect child health, especially nutrition (*3*, *4*, *5*). The nutrition work is made very practical by the observation and study of groups of malnourished children who attend day camps and are given nourishing but low-cost meals.

The cooperative nutrition study was inaugurated on January 1, 1940. The nutrition laboratory was established in the biochemistry department of Duke University Medical School. A technical advisory

committee was chosen from the members of the departments of biochemistry, physiology, and medicine to supervise and improve the techniques and methods employed. The personnel of the staff of the cooperative nutrition study consists of a director, an associate director, a nutritionist, an assistant nutritionist, two biochemists, four technicians, and a secretary. The studies undertaken include a medical history, a physical examination, a 7-day food intake survey of each individual, and a laboratory examination of 25 cc. of a sample of blood from each person studied. The procedures followed have conformed in general to those recommended in the Report of a Conference on Methods and Procedures (*6*). By the end of 1942, studies of population groups in two counties had been completed. This included certain reexaminations to determine seasonal variations in the food intake and the effect of these variations as reflected by examinations of the blood (*7*). Studies were made also during this period of several school groups and a National Youth Administration group (*8*).

The primary purpose of the study is to disclose, as far as possible, by the use of available methods and techniques, the cause, incidence, severity, and distribution of malnutrition in statistically significant groups of population. A committee consisting of scientists and administrators was organized to consider the various practical factors which should be studied both in the field and in the laboratory. This was the original North Carolina State Nutrition Committee, previously referred to. The plans of this committee did not contemplate the inauguration of control or preventive activities until the nutrition problem had been explored, at least partially. But impending war, and later war itself, brought demands for nutrition improvement activities, and this expansion of the program called for an increase in the membership of the State nutrition committee, which would include representatives of all official and voluntary organizations in the State which had a special interest in nutrition. Thus, the addition to the committee of persons with training and experience in the practical application of knowledge in such fields as food production, food conservation, education, and publicity, gave North Carolina a State nutrition committee to study, plan, promote, and supervise all aspects of the State's nutrition program.

With the organization of local nutrition committees and the efforts of these to inaugurate nutrition improvement programs, have come demands for kinds of assistance that can be provided only by trained and experienced nutritionists. While the work of some local committees has been performed on a very efficient basis, the necessary planning and organizing requires the services of persons with better training and more experience than can be found in the average county. In addition to advisory services of a rather detailed nature needed by these local committees, similar services are needed by State institu-

tions, health clinics, school lunch programs, and industries. Steps have been taken to provide for these services, and a budget has been approved. This budget provides a medical nutritionist, a principal nutritionist, and two senior nutritionists on the State level. Funds are available also for the employment of several nutritionists on the county level, the number depending upon the willingness of counties to assume part of the financial responsibility. One county has already arranged to employ a nutritionist on this basis, beginning May 1, 1943. She will serve on the staff of the county health department. As soon as this additional staff has been employed, a division of nutrition will be established within the State department of health. The director of this division then will assume responsibility for the entire nutrition program of the department.

REFERENCES

(1) Stiebling, Hazel K., and Phipard, Esther F.: Diets of Families of Employed Wage Earners and Clerical Workers in Cities. U. S. Department of Agriculture, No. 507, July 1939.
(2) Hershey, Lewis B.: Selective Service and Its Relation to Nutrition. Proceedings, the National Nutrition Conference for Defense, May 1941. Government Printing Office, Washington, D. C., 1942.
(3) Wilkins, Walter, and Boyd, French: A nutrition demonstration as a tool for teacher training. J. School Health, **12:** 35–42 (February 1942).
(4) Milam, D. F., and Wilkins, Walter: Plasma vitamin C levels in a group of children before and after dietary adjustment. Am. J. Trop. Med., **21:** 487–491 (May 1941).
(5) Milam, D. F., and Wilkins, Walter: Vitamin C in normal nutrition. So. Med. and Surg., **104:** 191 (April 1942).
(6) Nutrition survey of population groups, report of a conference on methods and procedures. Pub. Health Rep., **57:** 189–194 (February 6, 1942).
(7) Milam, D. F.: A nutrition survey of a small North Carolina community. Am. J. Pub. Health, **32:** 406–412 (April 1942).
(8) Manning, F. H., and Milam, D. F.: Medical and nutrition survey of 800 N. Y. A. youths. So. Med. J., **36:** 373–380 (May 1943).

THE ROLE OF THE HEALTH DEPARTMENT IN THE NATIONAL NUTRITION PROGRAM[1]

By W. H. SEBRELL, *Senior Surgeon*, and WALTER WILKINS, *Surgeon (R)*, *United States Public Health Service*

Today we are facing perhaps the greatest and most complex problem in preventive medicine that this country has ever had. It is the problem of food and nutrition. It has already taken too long for public health officials to recognize that malnutrition is a problem in preventive medicine.

Research in nutrition in the past few years has been so successful that we now have a body of technical knowledge sufficient to enable us to plan for adequate nutrition on a sound foundation. There is no question that a large proportion of the American population exists

[1] Presented at the Forty-first Annual Conference of the State and Territorial Health Officers with the United States Public Health Service, Washington, D. C., March 24, 1943.

on suboptimal diets. We have, to some extent, in this country every dietary deficiency disease known to man.

Health officers must recognize that here is a whole new sphere of health department responsibility. If the health officer's function is that of preserving the health of his people, then, in this field, he has been overlooking one of the basic and most important of all factors in maintaining health. Here is a new field of preventive medicine as great or greater than the development of sanitation or the control of communicable diseases. The ultimate aim of every nutrition program in this country today is the maintenance of good health. It is unfortunate that these programs should have developed and should continue to develop with the health officer either in a very minor role or not participating at all. He should be one of the leaders instead of a conscript.

Now a word about the extent of the problem and what is being done, and then we will make some suggestions for health department programs.

There appears to have been a feeling on the part of some physicians, who do not recognize many cases of advanced deficiency disease, that we are overemphasizing the importance of the nutrition problem. In every clinic in which close observations are made and the more refined methods of diagnosis used, many cases of malnutrition are recognized. It is not insignificant that practically all practicing physicians are prescribing vitamin preparations for many of their patients. Yet every study reveals the importance of mild degrees of deficiency in producing hitherto unrecognized symptoms. For example, a recent study by Johnson and his associates at the Harvard Fatigue Laboratory (*1*) showed that 10 men subjected to hard physical work on a diet deficient in parts of the vitamin B complex, notably in thiamin, showed a marked deterioration in their physical fitness in 1 week, and a majority developed symptoms of muscle and joint pains, poor appetite, and constipation.

Carefully conducted studies and surveys have shown that many of us are eating foods which fail to provide adequate amounts of certain materials necessary for good nutrition. This was true even before the war when our food supplies were normal

Last year research workers (*2*) reported the results of a survey of the diets of more than a thousand workers in a large aircraft factory. They found that more than four-fifths of the diets studied fell below the amounts of certain nutrients recommended by the Food and Nutrition Board of the National Research Council.

Nutrition specialists who have watched workers select their lunches in cafeteria lines report that not more than half of them choose good lunches, even when foods needed to provide good lunches are on the counters. They also point out that women usually make poorer

choices than men. The effect of such inadequate diets upon the civilian worker, upon his ability to do his part in the war effort, must be of serious concern to us now.

We have also learned that the way food is prepared greatly affects its food value. Studies have been made of foods as they are served to workers. In one such study (*3*) it was learned that as much as 90 percent of the vitamin B_1, which had been in the fresh raw food, was lost before the food was eaten by the worker. Keeping food hot for long periods of time is really overcooking it. The vitamins which are destroyed by heat and oxidation are thus lost.

Studies of this type indicate that we, as a nation, are not as well fed as we once believed. For too long we have judged our state of nutrition by the fullness of our stomachs and by the amount of fat we have stored away, instead of by health, physical fitness, and well-being.

This problem of adequate nutrition is so different from other health problems that it requires a new approach by the health officer. It is vast in its ramifications, involving as it does such diverse problems as crop production programs, farm machinery and manpower, food distribution and rationing, food preservation, processing and transportation, storage and proper food preparation, as well as nutrition education, and the diagnosis, prevention, and treatment of specific dietary deficiency diseases. It is obvious that such problems cannot be solved by any one agency alone. Close cooperation and intimate relations among a number of agencies, of which one certainly should be the health department, are essential.

A number of official and voluntary agencies have been working on certain aspects of the nutrition problem for many years. The home economics and agriculture teachers in our high schools and colleges, the Agricultural Extension Service, the Red Cross, the Children's Bureau of the Department of Labor, and a number of other organizations have been on the nutrition firing line for a long time.

Numerous State health departments have had assistance from the Children's Bureau in establishing and maintaining specialized nutrition services on a State level. A fine start has been made in the maternal and child health divisions where most of the emphasis was rightly placed under normal conditions. Now, however, it is becoming increasingly evident that nutrition work must extend into other divisions of the health department. The war, with its inevitable strain on all of us, with the shortages it creates, the added effort it demands, the population shifts, and the feeding problems in large new war industries, is forcing us to face the nutrition problem on a much larger front and to do something about it. The record of things done up to now is impressive, but we have made only a start.

To deal with such problems the regular nutrition activities of various government and voluntary agencies have been intensified

and expanded. In 1940 representatives of these agencies met and formed a nutrition planning committee. In May 1941, President Roosevelt called the first National Nutrition Conference in Washington (*4*).

The National Nutrition Program grew out of this conference, and was coordinated through the Nutrition Division of the Office of Defense Health and Welfare Services under the direction of Federal Security Administrator Paul V. McNutt. When the Executive order of December 5 was signed, conferring on Secretary Wickard powers concerning the total war food problem of the country, Mr. McNutt immediately recognized that, in order for Federal coordination of nutrition activities to continue properly, the nutrition program must be consolidated with the program developed under this Executive order. He, therefore, very generously offered this going nutrition program to Secretary Wickard, and early in March (1943) the President signed the order transferring the Nutrition Division of the Office of Defense Health and Welfare Services to Secretary Wickard. The program is now part of the recently created War Food Administration under the direction of Mr. Chester Davis.

Regional nutritionists represent the Nutrition Division in the Social Security regions. They are now being transferred to the Food Distribution Administration regions. On invitation these nutritionists work with State and local nutrition committees in planning and developing nutrition programs and projects.

We believe that the most important thing that has been accomplished by this office is the coordination of the nutrition programs of the various Federal agencies, centering attention on the common objective, recognizing that every agency has its part to play, and that no one agency can do it all. Here is a real demonstration of the fact that cooperation among separate agencies can function at the Federal, State, and local levels. It shows that public health, agriculture, labor, relief, and other agencies can do the job together, if they will only try.

In every State in the Union, and in Hawaii, nutrition committees have been formed. In many counties, cities, and local communities nutrition committees are working on local nutrition problems, unfortunately in many instances with little or no participation by the health department. As a result of the work of these committees, nutrition classes have been organized, educational material dealing with local food problems has been prepared, food demonstrations have been given, and many local nutrition problems are being attacked.

One of our most important civilian wartime nutrition problems is the feeding of our industrial workers (*5*). They must be fed

properly if we are to maintain maximum production. The problem outside the plant is part of the community nutrition problem which can be attacked by the local nutrition committee as part of its regular activities. Feeding within the plant is a more specialized problem and requires a different approach. Here it may be regarded as one aspect of a properly developed industrial hygiene program. It should be approached either through the plant medical officer or safety director after the plant management has agreed to the program.

At the Federal level we work very closely with the Industrial Hygiene Division of the National Institute of Health of the United States Public Health Service. At the State level, where State health departments have industrial hygiene officers, it is most important that they be the point of contact with the plant, using the advice and assistance of the local and State nutrition committees. Because of the scope and importance of this industrial nutrition problem we are now appointing regional industrial nutrition representatives to work with State and local committees and health officers on this problem.

In many States with large industrial developments the State nutrition committees have organized special industrial nutrition subcommittees, including in their membership representatives of management, labor, caterers, industrial physicians, public utilities, and other interested groups. The health officer should take his place on these committees.

On request from industrial plants, the industrial nutritionists assist plant executives in planning feeding programs for their employees. Industrial nutritionists also work with labor groups in the promotion of better eating habits among workers.

Nutrition committees throughout the country are working constantly to improve the public knowledge of nutrition and to stimulate the development of better food habits. They are helping war workers, housewives, school children, office workers, and many others to improve their nutrition by improving their food habits. But these committees know that there is much more to be done. They know that each individual must learn for himself what foods are needed for good nutrition and must improve his own nutrition by eating the foods he needs. With shortages of certain foods made inevitable by the war, knowledge of food values and improvement of food habits become doubly important.

Lack of the B vitamins appears to be rather common in the diets of many Americans. Because we have learned to like many refined foods, and because the B vitamins are present in only small amounts in commonly used foods, a plan was developed, with the advice of the National Research Council, to add certain important nutrients to

white flour and bread. Because our grain supply is relatively abundant, we can expect a generous supply of flour and other cereal products, and these products are among the most economical in our diet. Even in normal times most people eat bread with every meal. For these reasons, the enrichment of white flour and bread opens the way for considerable improvement in the diet of the Nation. Under the enrichment program, thiamin, niacin, and iron are added to white flour and bread; calcium and vitamin D are optional ingredients, and it is expected that riboflavin will soon be a required ingredient.

The Secretary of Agriculture recently ordered that all pan white bread sold by bakeries must be enriched. Also, it must contain not less than 3 percent nor more than 4 percent of dried milk solids. It is expected that this will be increased to 6 percent, if the milk can be made available. Such a loaf of bread truly becomes a "staff of life" on which we can lean with confidence in the face of restrictions on many customary food items.

This important development is only one way in which efforts are being made to improve our food supply. Some other special foods that are also of importance are vitamin A fortified oleomargarine, iodized salt (which should be used universally), and vitamin D milk for children.

Health departments must do their share not only in nutrition education but also in promoting sound food programs designed to improve nutrition. Public health personnel have both an opportunity and an obligation to perform a function that cannot be performed as well by any other group. We must carry the public health concept of prevention a step further than has been done in the prevention of clear-cut disease. We must strive toward the highest health levels which are possible of attainment. Freedom from obvious disease is not enough. The whole range of health levels, from fatal disease states on one hand to buoyant health on the other, is greatly affected by the food habits of the individual. The prevention of classical disease states has taken so much of our time and thought that often we have failed to recognize a range of degrees of health. While poor nutrition can, and often does, contribute to mortality, optimum nutrition can contribute to that state of health which is even better than average—that extra portion of good health that some individuals have. Nutrition—good or bad—makes its contribution to all grades of health status. Poor nutrition can kill us, while optimum nutrition can make a great contribution to optimum health.

We would not say that good nutrition guarantees good health, but we can say that optimum health is unknown in the absence of good nutrition. Thus nutrition is a fundamental health factor upon which many other factors are conditioned.

The fact that malnutrition rarely appears in our mortality tables and only occasionally in our morbidity tables has not reflected the true importance of nutrition in our national health economy. Hidden hunger frequently has been too elusive and evasive in its manifestations to be caught in our diagnostic drag nets; often it is an accessory to the crime which seldom comes to trial, hiding behind our indifference or ignorance as diagnosticians.

Right now the American public, through necessity, is forced to be food and nutrition conscious. The question, "What am I going to have for my next meal?" formerly suggested diminished financial resources. Now it suggests not so much money shortages as actual food shortages. As intelligent and wide-awake public health officials we must take advantage of this widespread interest to make a great advance in preventive medicine.

Can the American public maintain even its present state of nutrition in the face of the present food situation? This depends upon the efficiency with which we utilize our food supplies. Methods of use, preservation, and preparation of foods, in homes and public eating places are still responsible for tremendous losses in food values. Food waste is still rampant. Even in the face of food shortages, the full garbage pail seems to be far more prevalent than the full dinner pail, nutritionally speaking. The possible uses of alternate foods, when shortages exist, are all too often unappreciated. The signs and symptoms of malnutrition are often attributed to other causes or to vague and ill-defined factors. The relationship of nutrition to other personal health problems is not common knowledge—as it should be.

Right now the American public wants help and guidance in nutrition, and the health department can play a tremendous part in the national effort to improve the nutrition of the population. The health officer and his staff should become acquainted with the nutrition work being done by other agencies. Staff members will find it easier to take their place in local nutrition programs if they have a background of knowledge of work which is being done by other organizations, and if they know, and give full recognition to, the individuals doing that work. Every staff member should recognize the necessity for establishing and maintaining good working relationships with other organizations.

As staff members gain the confidence of, and learn to cooperate with, other agencies, they will find that each can contribute information and help to the others. From such understanding between agencies, effective coordinated programs can grow. Each agency should assume the responsibilities for which it is particularly fitted by work carried on as a part of its regular functioning.

The health department is in a position to help discover and relate nutrition problems to other public health and medical problems.

It should help the public to see nutrition in relation to other factors in the locality which affect the public health.

Public health must find its sphere of activity in nutrition and develop it. This work must not consist simply of individual nutrition guidance spread so thin as to be practically worthless. Neither will random distribution of printed material do the job. We must develop our nutrition activities and services around those procedures which lend themselves to the public health approach.

For many years some Federal, State, and local agencies have been carrying on programs covering certain phases of nutrition. Don't let the public health staff "steal the thunder" of these agencies. If staff members understand that there are many approaches to the nutrition problem, each of which is essential to the development of a complete and effective program, they will appreciate the importance of the nutrition work of agencies whose approaches and contributions differ from their own. They will also see the need for correlating their work with that of other groups, of complementing and supplementing, rather than duplicating, work already done. They will realize that their own program, rather than being curtailed by such cooperative effort, can be made far more effective.

The nutrition program of the health department should have the same seriousness of purpose as the venereal disease, sanitation, and communicable disease programs. It should begin modestly and expand gradually. Planned staff education in nutrition, within the health department or in cooperation with other agencies, should be an integral part of such a program.

What are some of the lines along which State health departments can develop nutrition services which are in keeping with sound principles of public health? Some of the more important activities of such a program might be as follows:

1. Collect information and do appraisals (*6*, *7*) on the incidence and types of deficiency diseases and on food habits in geographical areas and population groups, especially children, pregnant and lactating women, and industrial workers. Even small samplings (*8*, *9*, *10*) are of value in pointing the way to more comprehensive appraisals (*11*).

2. Offer assistance in the diagnosis of nutritional deficiencies. Here is a health department service which is in line with sound public health principles and which will strengthen the work of other agencies in this field. At the same time the efforts of other agencies will contribute greatly to creating a demand for this type of service.

3. Prepare and distribute simple attractive literature dealing with State nutrition problems. Such literature should be prepared with a full knowledge of all other nutrition literature being used by other

agencies in order that duplication and conflicting viewpoints may be avoided.

4. Cooperate actively with other agencies dealing with different aspects of the nutrition problem. Offer the specialized services of the health department to other agencies to help them in dealing with their particular phases of nutrition.

5. Take an active part in the work of the State nutrition committee.

6. Offer information, consultation, guidance, and encouragement to local health departments in developing local nutrition programs and in cooperating with the local nutrition committees.

7. Promote staff education in nutrition, including facilities for professional education in public health nutrition, and education of county and city health department personnel in nutrition activities.

8. Assist in sponsoring conferences and refresher courses in nutrition and related fields for public health and school personnel. During the past three summers nine such cooperatively sponsored 6-week conferences have been held in one State (*10*). Similar projects have been successfully carried out in several other States.

9. Active participation of nutritionists in the public health nursing and dental hygiene program, in well child clinics, in school health programs, and in other activities of the maternal and child health division (*12*).

10. Include nutrition in the industrial hygiene program (*5*) not only by nutrition education in the plant, but also by improving plant feeding facilities and the nutritional quality of the meals served.

11. Cooperate with and assist the State food distribution administrator in locating and meeting local food problems.

12. Take an interest in school lunch programs (*13*, *14*). The United States Public Health Service can consider requests for nutritionists for these programs under Title VI funds if recommended and requested through local and State health departments. Under rationing we should give more attention than ever to the adequacy of the meals our children get at school.

Now, here are some of the things that the local health department can do to help solve the nutrition problems existing in its territory:

1. Learn what other agencies have done and are doing within the area.

2. Affiliate with the local nutrition committee.

3. Study the nutritional status and needs of the area from medical and public health angles and help orient other agencies in this regard (*6*, *7*, *15*).

4. Distribute and interpret nutrition teaching material, especially material which deals primarily with local problems.

5. Have a planned program for staff education in nutrition within the department or in cooperation with other agencies.

6. Exert a stabilizing influence, and interpret sound nutrition practices to the public, avoiding fads and extremes.

7. Interpret local nutritional conditions to the public through talks, newspaper articles, radio programs, etc.

8. Make an effort to increase the interest of local medical and dental professions in local nutrition problems and practical solutions.

9. Develop nutrition educational facilities for patients who attend public health clinics. In some places it may be advisable to establish clinics to deal primarily with nutrition problems.

10. Develop and maintain a movie, film strip, and slide library on nutrition and related subjects.

11. Encourage public eating places to serve food of good nutritional value and to prepare their foods in such a way as to conserve vitamins and minerals. This might be started as a consultation service.

12. Encourage civic clubs to sponsor programs which, either directly or indirectly, will improve the nutrition status of groups within the community.

13. Advise and sponsor feeding facilities in connection with child day care programs.

14. Stress nutrition in school health programs:

a. Cooperate with teachers, P. T. A.'s, and lunchroom managers in improving school lunches.

b. Sponsor cooperative school lunch programs (*13*, *14*).

c. Encourage the use of simple, wholesome, home prepared foods in lunchboxes rather than the use of "store bought" snacks.

d. Watch for and stress nutritional deficiencies in physical examination of school and preschool children (*6*, *16*).

e. When practical, conduct or sponsor demonstrations (*10*) with school children showing results of improved nutrition (properly integrated with other health habits).

f. Sponsor "sampling surveys" of school children for nutritional status. If possible, get local medical and dental societies to cooperate. In one such "survey" (*17*) of a group of rural high school children, 54 percent were found to have spongy gums. Those children with the worst gums agreed to drink two glasses of grapefruit juice each day for a week. This they did at school. At the end of this time 76 percent of the gums had healed or greatly improved. Such easy and simple procedures serve not only as fact-finding devices but create a great deal of interest in local nutrition problems.

Obviously no health department is expected to do everything here suggested but these are examples of ways in which health departments can add their forces to those working to improve the nutritional status of the population. The need is great; the public wants help; the situation demands it. Now is the time for public health to fill the gap

in the lines of those forces which are fighting one of our most dangerous and insidious health enemies—malnutrition.

REFERENCES

(1) Johnson, R. E., Darling, R. C., Forbes, W. H., Bronha, L., Egana, E., and Graybiel, A.: The effects of a diet deficient in parts of the vitamin B complex upon men doing manual labor. J. Nutrit., **24:** 585 (December 1942).

(2) Weihl, Dorothy G.: Diets of a group of aircraft workers in southern California. Milbank Memorial Fund Quarterly, **20:** 329 (1942).

(3) Goodhart, R.: Dietary conditions in industry. J. Am. Med. Assoc., **121:** 93 (January 9, 1943).

(4) Proceedings: National Nutrition Conference for Defense, May 1941. Government Printing Office, Washington, D. C., 1942.

(5) The food and nutrition of industrial workers in wartime. Report of the Committee on Nutrition in Industry (1942). National Research Council, 2101 Constitution Avenue, Washington, D. C. Free on request.

(6) Committee Report: Recognition of early nutritional failure in infants, children, adolescents, and adults. J. Am. Med. Assoc., **118:** 615 (February 21, 1942).

(7) Nutrition survey of population groups. Report of conference on methods and procedures. Pub. Health Rep., **57:** 189 (February 6, 1942).

(8) Milam, D. F., and Wilkins, Walter: Plasma vitamin C levels in a group of children before and after dietetic adjustment. Am. J. Trop. Med., **21:** 487 (1941).

(9) Milam, D. F., and Wilkins, Walter: Vitamin C in normal nutrition: effect of low cost diet on plasma levels over 6-week period. So. Med. and Surg., **104:** 191 (April 1942).

(10) Wilkins, Walter, and Boyd, French: A nutrition demonstration as a tool for teacher training. J. School Health, **12:** 35 (February 1942).

(11) Milam, D. F.: Nutrition survey of a small North Carolina community. Am. J. Pub. Health, **32:** 406 (April 1942).

(12) McHenry, E. W.: Nutrition and child health. Canad. Pub. Health J., **33:** 152 (April 1942).

(13) Hudson, C. C.: The school lunch as an aid to health education. J. School Health, **10:** 84 (March 1940).

(14) Willard, W. R.: Working for better nutrition in a rural community. Am. J. Pub. Health, **32:** 996 (September 1942).

(15) Youmans, J. B.: Nutrition and public health. So. Med. J., **35:** 612 (June 1942).

(16) Souther, S. P.: Shall public health physicians attempt to assess nutritional status of school children? Am. J. Pub. Health, **32:** 166 (February 1942).,

(17) Wilkins, Walter, and Boyd, French: Unpublished data.

DEATHS DURING WEEK ENDED MAY 8, 1943

[From the Weekly Mortality Index, issued by the Bureau of the Census, Department of Commerce]

	Week ended May 8, 1943	Corresponding week, 1942
Data for 87 large cities of the United States:		
Total deaths	9,051	7,998
Average for 3 prior years	8,139	
Total deaths, first 18 weeks of year	172,795	157,210
Deaths under 1 year of age	598	536
Average for 3 prior years	510	
Deaths under 1 year of age, first 18 weeks of year	11,931	9,933
Data from industrial insurance companies:		
Policies in force	65,513,811	64,975,586
Number of death claims	12,180	11,858
Death claims per 1,000 policies in force, annual rate	9.7	9.5
Death claims per 1,000 policies, first 18 weeks of year, annual rate	10.5	10.1

PREVALENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

UNITED STATES

REPORTS FROM STATES FOR WEEK ENDED MAY 15, 1943

Summary

As compared with the preceding week, current reports show slightly increased incidence of five of the nine common communicable diseases included in the following table (measles, meningococcus meningitis, poliomyelitis, scarlet fever, and whooping cough), and totals reported for both the current week and for the first 19 weeks of the year are above the comparable median figures (1938–42) for these same diseases with the exception of whooping cough.

A total of 485 cases of meningococcus meningitis was reported for the week (exclusive of delayed reports), as compared with 607 for the preceding week and an average of 588 for the past 3 weeks. The decrease was noted throughout the country generally, with the notable exceptions of New Jersey, Michigan, Missouri, and Kentucky, the total for which States aggregated 120 cases as compared with 57 last week. Less significant increases occurred in a few other States. A total of 9,298 cases has been reported to date this year.

The total number of measles cases reported for the current week, 27,776, and the cumulative figure for the first 19 weeks of the year, 368,642, are about 23 percent and 5 percent above the respective median figures.

Poliomyelitis cases reported for the week totaled 28, as compared with 26 last week and a 5-year median of 16. Of the current total, 11 cases were in California, 4 in Mississippi, and 13 in 8 other States.

Of a total of 25 cases of smallpox (as compared with 17 last week and a 5-year median of 48), 15 occurred in Ohio and 6 in Iowa.

The total cases reported to date of the diseases included in the following table, as compared with the same period last year, are as follows (last year's figures in parentheses): Anthrax 26 (29), diphtheria 4,929 (5,255), dysentery, all forms, 5,194 (2,340), infectious encephalitis 211 (150), influenza 71,140 (73,372), leprosy 9 (22),

measles 368,642 (351,766), meningococcus meningitis 9,305 (1,486), poliomyelitis 483 (391), Rocky Mountain spotted fever 56 (64), scarlet fever 75,724 (72,081), smallpox 501 (419), tularemia 316 (346), typhoid and paratyphoid fever 1,083 (1,507), endemic typhus fever 867 (678), whooping cough 76,786 (73,019).

The total number of deaths recorded in 88 large cities of the United States for the current week was 9,176, as compared with 9,273 last week and a 3-year average of 8,178. The accumulated number for the first 19 weeks of the year is 185,655, as compared with 168,764 for the corresponding period of 1942.

520065°—43——4

Telegraphic morbidity reports from State health officers for the week ended May 15, 1943, and comparison with corresponding week of 1942 and 5-year median

In these tables a zero indicates a definite report, while leaders imply that, although none were reported, cases may have occurred.

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended—		Median 1938–42	Week ended—		Median 1938–42	Week ended—		Median 1938–42	Week ended—		Median 1938–42
	May 15, 1943	May 16, 1942		May 15, 1943	May 16, 1942		May 15, 1943	May 16, 1942		May 15, 1943	May 16, 1942	
NEW ENG.												
Maine	0	0	1	----	----	1	34	127	133	2	3	0
New Hampshire	0	0	0	----	----	----	42	38	38	4	1	0
Vermont	0	1	0	----	----	----	251	147	142	0	0	0
Massachusetts	0	7	4	----	----	----	1,669	1,280	848	30	6	1
Rhode Island	2	1	0	1	----	----	52	275	93	12	0	0
Connecticut	0	0	1	3	2	1	491	407	407	4	0	0
MID. ATL.												
New York	16	15	23	[1] 10	[1] 5	[1] 5	3,383	855	2,320	70	14	6
New Jersey	4	3	6	10	3	5	2,329	726	759	42	4	1
Pennsylvania	5	10	20	3	----	----	2,096	1,329	1,329	34	3	4
E. NO. CEN.												
Ohio	19	10	9	8	5	5	519	497	497	15	0	1
Indiana	6	1	7	----	1	1	490	219	219	7	1	0
Illinois	32	14	30	26	3	7	1,870	445	445	14	0	2
Michigan [2]	3	4	4	2	0	7	3,782	570	661	24	0	1
Wisconsin	1	0	1	28	5	32	2,320	1,401	1,401	3	1	0
W. NO. CEN.												
Minnesota	0	4	2	----	----	1	379	862	239	3	0	0
Iowa	2	3	2	1	1	3	183	313	260	1	0	0
Missouri	2	4	4	2	----	2	494	251	251	33	3	1
North Dakota	1	1	1	25	9	9	139	17	21	1	0	0
South Dakota	0	4	1	----	----	1	63	89	10	0	0	0
Nebraska	0	1	1	22	27	----	173	402	215	0	0	0
Kansas	0	4	6	----	4	4	542	597	509	7	0	0
SO. ATL.												
Delaware	0	0	0	----	----	----	117	8	9	2	0	0
Maryland [2]	1	3	2	8	3	3	263	423	241	13	5	2
Dist. of Col.	0	0	2	----	----	----	123	106	106	2	4	0
Virginia	2	5	8	141	114	114	326	167	353	19	5	3
West Virginia	2	0	4	1	8	20	159	34	88	9	1	1
North Carolina	6	4	5	8	8	2	280	706	706	18	2	2
South Carolina	15	2	4	39	161	213	127	100	100	1	1	0
Georgia	2	2	4	35	46	46	175	217	217	2	0	0
Florida	3	6	1	12	1	4	136	219	166	9	0	0
E. SO. CEN.												
Kentucky	5	2	5	20	----	8	167	68	120	21	2	3
Tennessee	1	2	2	63	27	35	376	154	154	9	1	2
Alabama	2	4	4	47	20	47	205	143	149	8	0	0
Mississippi [2]	1	6	6	----	----	----	----	----	----	8	1	1
W. SO. CEN.												
Arkansas	2	4	4	8	20	27	98	193	193	[3] 3	2	1
Louisiana	2	7	7	----	2	5	88	223	43	3	4	2
Oklahoma	6	2	5	44	19	40	91	153	178	0	0	0
Texas	22	24	24	267	301	335	432	991	991	15	7	3
MOUNTAIN												
Montana	1	2	2	9	----	4	134	207	57	0	0	0
Idaho	0	1	0	----	1	1	44	156	65	8	0	0
Wyoming	0	0	0	7	64	----	178	93	60	0	0	0
Colorado	7	7	9	25	35	4	583	260	299	3	2	1
New Mexico	0	6	1	8	3	3	23	27	27	0	0	0
Arizona	1	2	1	24	71	55	10	144	73	1	2	0
Utah [2]	0	0	0	34	3	3	252	1,269	293	1	0	0
Nevada	0	0	----	----	----	----	13	4	----	1	0	----
PACIFIC												
Washington	5	1	0	1	----	----	620	547	547	4	4	0
Oregon	0	0	3	65	12	12	237	185	185	5	0	0
California	8	6	16	65	24	42	1,218	4,988	640	17	7	2
Total	187	185	227	1,072	1,008	1,386	27,776	22,632	22,632	[3] 488	86	54
19 weeks	4,329	5,255	6,412	71,140	73,372	143,546	368,642	351,766	351,766	9,305	1,486	941

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended May 15, 1943, and comparison with corresponding week of 1942 and 5-year median—Con.

Division and State	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever		
	Week ended—		Median 1938–42	Week ended—		Median 1938–42	Week ended—		Median 1938–42	Week ended—		Median 1938–42
	May 15, 1943	May 16, 1942		May 15, 1943	May 16, 1942		May 15, 1943	May 16, 1942		May 15, 1943	May 16, 1942	
NEW ENG.												
Maine	0	0	0	9	4	9	0	0	0	0	1	0
New Hampshire	0	0	0	2	7	6	0	1	0	0	0	0
Vermont	0	0	0	9	12	9	0	0	0	0	1	0
Massachusetts	1	0	0	483	284	191	0	0	0	1	1	1
Rhode Island	0	0	0	35	14	13	0	0	0	0	0	0
Connecticut	0	0	0	99	20	67	0	0	0	0	2	2
MID. ATL.												
New York	0	3	1	619	366	572	0	0	0	9	4	6
New Jersey	0	0	0	154	158	261	0	0	0	0	1	2
Pennsylvania	0	0	0	343	406	402	0	0	0	3	9	7
E. NO. CEN.												
Ohio	2	0	0	125	269	297	15	0	0	1	4	4
Indiana	0	0	0	66	56	82	0	0	1	2	1	2
Illinois	1	0	0	202	128	393	0	0	4	0	2	3
Michigan [2]	0	0	0	134	188	335	1	0	2	1	0	1
Wisconsin	1	1	0	357	112	131	0	0	4	0	2	2
W. NO. CEN.												
Minnesota	0	0	0	49	45	56	0	1	1	2	0	1
Iowa	0	0	0	56	23	61	6	1	13	0	2	2
Missouri	0	0	0	171	58	65	0	3	7	2	2	1
North Dakota	0	0	0	4	5	5	0	0	2	1	0	0
South Dakota	0	0	0	7	12	15	0	0	1	0	0	0
Nebraska	0	0	0	25	26	24	0	0	4	0	0	0
Kansas	0	0	0	78	50	54	0	0	2	2	2	1
SO. ATL.												
Delaware	0	0	0	5	30	7	0	0	0	0	0	0
Maryland [3]	0	1	0	154	54	51	0	0	0	0	2	2
Dist. of Col	0	0	0	18	6	12	0	0	0	0	0	0
Virginia	0	0	0	38	15	21	0	0	0	2	1	3
West Virginia	0	0	0	26	26	27	1	0	0	0	1	2
North Carolina	0	1	1	16	16	17	1	1	0	1	3	2
South Carolina	0	1	1	8	3	3	0	0	0	1	2	3
Georgia	0	0	0	15	10	10	0	0	0	5	10	5
Florida	0	2	2	3	4	4	0	0	0	1	7	7
E. SO. CEN.												
Kentucky	1	1	0	32	44	48	0	0	0	1	5	4
Tennessee	0	0	0	28	25	55	0	8	2	4	2	3
Alabama	0	2	1	7	8	8	0	1	0	1	0	5
Mississippi [2]	4	0	1	9	0	1	0	1	0	0	4	3
W. SO. CEN.												
Arkansas	2	1	0	12	6	6	0	4	2	1	2	3
Louisiana	0	0	0	1	12	10	0	0	0	5	11	9
Oklahoma	0	0	0	16	2	18	0	2	2	0	2	2
Texas	2	0	1	58	48	37	1	1	2	2	7	9
MOUNTAIN												
Montana	0	0	0	8	16	18	0	0	0	0	0	1
Idaho	0	0	0	90	7	6	0	0	0	1	0	1
Wyoming	0	1	0	55	19	9	0	0	0	0	0	0
Colorado	0	0	0	62	22	34	0	0	3	0	3	2
New Mexico	0	0	0	10	0	6	0	0	0	0	0	0
Arizona	3	0	0	9	4	5	0	0	0	1	0	1
Utah [2]	0	0	0	45	20	20	0	0	0	0	0	0
Nevada	0	0	-----	2	0	-----	0	0	-----	0	0	-----
PACIFIC												
Washington	0	0	0	31	18	25	0	0	1	0	2	2
Oregon	0	0	1	12	13	17	0	0	0	1	0	1
California	11	0	3	166	71	143	0	0	1	3	4	8
Total	28	14	16	3,963	2,742	3,823	25	24	48	54	102	102
19 weeks	483	391	391	75,724	72,081	91,674	501	419	1,380	1,083	1,507	1,560

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended May 15, 1943, and comparison with corresponding week of 1942 and 5-year median—Con.

Division and State	Whooping cough			Week ended May 15, 1943								
	Week ended—		Median 1938–42	Anthrax	Dysentery			Encephalitis, infectious	Leprosy	Rocky Mt. spotted fever	Tularemia	Typhus fever
	May 15, 1943	May 16, 1942			Amebic	Bacillary	Unspecified					
NEW ENG.												
Maine	52	26	28	0	0	0	0	0	0	0	0	0
New Hampshire	13	2	2	0	0	0	0	0	0	0	0	0
Vermont	1	31	35	0	0	0	0	0	0	0	0	0
Massachusetts	151	239	204	0	0	3	0	1	0	0	0	0
Rhode Island	16	36	32	0	0	0	0	0	0	0	0	0
Connecticut	48	100	100	0	0	0	0	1	0	0	0	0
MID. ATL.												
New York	260	437	437	0	10	12	0	2	0	0	0	0
New Jersey	135	313	189	1	0	0	0	0	0	0	0	0
Pennsylvania	280	219	307	0	0	1	0	2	1	0	1	0
E. NO. CEN.												
Ohio	82	189	220	0	0	0	0	1	0	0	0	0
Indiana	83	58	36	0	0	0	0	0	0	0	0	0
Illinois	128	243	132	0	1	0	0	2	0	0	0	0
Michigan [2]	291	187	199	0	0	1	0	0	0	0	0	0
Wisconsin	248	246	138	0	0	0	0	0	0	0	0	0
W. NO. CEN.												
Minnesota	91	48	36	0	1	0	0	0	0	0	0	0
Iowa	59	18	26	0	0	0	0	0	0	0	0	0
Missouri	50	7	34	0	0	6	0	0	0	1	0	0
North Dakota	12	7	11	0	0	1	0	0	0	0	0	0
South Dakota	0	5	5	0	0	0	0	0	0	0	0	0
Nebraska	16	1	7	0	0	0	0	0	0	0	0	0
Kansas	68	42	42	0	0	0	0	1	0	0	0	0
SO. ATL.												
Delaware	2	0	1	0	0	0	0	0	0	0	0	0
Maryland [2]	107	39	70	0	0	0	0	0	0	1	0	0
Dist. of Col	38	19	19	0	1	0	0	0	0	0	0	0
Virginia	145	55	55	0	0	0	20	0	0	0	0	1
West Virginia	61	1	46	0	0	0	0	0	0	0	0	0
North Carolina	175	100	230	0	0	1	0	0	0	0	1	0
South Carolina	62	56	90	0	0	6	0	0	0	0	1	0
Georgia	60	62	56	0	0	8	4	0	0	0	0	17
Florida	34	12	12	0	0	0	0	0	0	0	0	1
E. SO. CEN.												
Kentucky	13	63	59	0	0	0	0	0	0	0	0	0
Tennessee	78	41	41	0	0	0	1	0	0	1	5	1
Alabama	100	83	51	0	0	0	0	0	0	0	1	11
Mississippi [2]	----	----	----	0	0	0	0	0	0	0	0	9
W. SO. CEN.												
Arkansas	44	9	21	0	0	0	0	0	0	0	4	0
Louisiana	2	8	31	0	1	0	0	0	0	0	0	4
Oklahoma	33	8	14	0	0	0	0	0	0	0	0	0
Texas	494	136	270	----	15	210	0	0	0	0	3	15
MOUNTAIN												
Montana	25	14	14	0	0	0	0	0	0	2	2	0
Idaho	2	10	10	0	0	0	0	1	0	5	0	0
Wyoming	5	8	6	0	0	0	0	0	0	0	0	0
Colorado	21	27	40	0	0	0	0	0	0	0	2	0
New Mexico	18	14	23	0	0	0	1	0	0	1	2	0
Arizona	9	36	28	0	0	0	7	0	0	0	0	0
Utah [2]	0	32	60	0	0	0	0	0	0	2	2	0
Nevada	3	10	----	0	0	0	0	0	0	0	0	0
PACIFIC												
Washington	35	75	75	0	0	0	0	0	0	0	0	0
Oregon	52	21	21	0	0	0	0	0	0	1	0	0
California	431	265	366	0	3	17	0	0	0	2	1	0
Total	4,133	3,658	3,820	1	32	266	33	11	1	16	25	80
19 weeks	76,786	73,019	76,445	26	560	3,761	873	211	9	56	316	867
19 weeks, 1942	----	----	----	29	325	1,269	746	150	22	64	346	678

[1] New York City only.
[2] Period ended earlier than Saturday.
[3] Delayed report of 3 cases in Arkansas for week ended May 8, 1943, included.

WEEKLY REPORTS FROM CITIES

City reports for week ended May 1, 1943

This table lists the reports from 89 cities of more than 10,000 population distributed throughout the United States and represents a cross section of the current urban incidence of the diseases included in the table.

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
NEW ENGLAND												
Maine:												
Portland	0	0	1	0	12	1	0	0	3	0	0	14
New Hampshire:												
Concord	0	0	------	0	1	0	0	0	1	0	0	0
Vermont:												
Barre	0	0	------	0	2	0	0	0	0	0	0	0
Massachusetts:												
Boston	0	0	------	2	223	19	17	0	161	0	0	27
Fall River	0	0	------	0	181	0	1	0	3	0	0	13
Springfield	0	0	------	0	11	0	1	0	54	0	0	0
Worcester	0	0	------	0	223	0	12	0	9	0	0	2
Rhode Island:												
Providence	0	0	------	0	2	4	5	0	23	0	0	19
Connecticut:												
Bridgeport	0	0	------	0	0	0	2	0	4	0	0	0
Hartford	1	0	------	0	34	1	5	0	4	0	0	3
New Haven	0	0	1	0	18	2	3	0	5	0	0	4
MIDDLE ATLANTIC												
New York:												
Buffalo	0	0	------	2	71	2	12	0	15	0	0	8
New York	19	0	8	4	1,106	52	94	3	417	0	3	53
Rochester	0	0	------	0	45	0	5	0	6	0	0	5
Syracuse	0	0	------	0	84	1	5	0	7	0	0	16
New Jersey:												
Camden	1	0	------	2	15	1	0	0	7	0	0	1
Newark	0	0	6	0	370	5	12	0	6	0	1	32
Trenton	0	0	2	0	36	1	5	0	8	0	0	1
Pennsylvania:												
Philadelphia	3	0	2	1	278	19	30	0	109	0	0	55
Pittsburgh	0	0	2	3	40	3	13	0	11	0	0	69
Reading	0	0	------	1	109	1	0	0	1	0	0	6
EAST NORTH CENTRAL												
Ohio:												
Cincinnati	0	0	------	0	92	4	6	0	42	0	0	4
Cleveland	2	0	11	0	22	1	13	0	45	1	0	32
Columbus	0	0	1	1	43	1	1	0	15	0	0	3
Indiana:												
Fort Wayne	0	0	------	1	17	0	5	0	10	0	0	0
Indianapolis	2	0	------	1	194	0	6	0	19	0	0	24
South Bend	0	0	------	0	6	0	0	0	0	0	0	0
Terre Haute	0	0	------	0	13	0	0	0	0	0	0	0
Illinois:												
Chicago	25	0	4	2	963	13	26	0	91	0	0	49
Springfield	0	0	------	0	10	1	1	0	0	0	0	7
Michigan:												
Detroit	7	0	------	0	1419	19	19	0	39	0	1	97
Flint	0	0	------	0	151	0	5	0	4	0	0	6
Grand Rapids	0	0	------	0	10	1	3	0	5	0	0	12
Wisconsin:												
Kenosha	0	0	------	0	4	0	0	0	11	0	0	0
Milwaukee	0	0	1	1	449	1	6	0	148	0	0	35
Racine	0	0	------	0	5	0	0	0	25	0	0	0
Superior	0	0	------	0	3	0	0	1	0	0	0	1
WEST NORTH CENTRAL												
Minnesota:												
Duluth	0	0	------	0	5	0	4	0	2	0	0	3
Minneapolis	0	0	------	0	187	3	4	0	22	0	0	21
St. Paul	0	0	------	1	15	1	3	0	5	0	0	34
Missouri:												
Kansas City	0	0	------	2	85	1	4	0	38	0	0	1
St. Joseph	0	0	------	0	7	0	4	0	0	0	0	1
St. Louis	0	0	2	1	52	16	16	0	15	0	1	20

City reports for week ended May 1, 1943—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
WEST NORTH CENT.—con.												
North Dakota:												
Fargo	0	0	-----	0	0	0	0	0	0	0	0	0
Nebraska:												
Omaha	1	0	-----	0	9	0	3	0	8	0	0	2
Kansas:												
Wichita	0	0	-----	0	148	0	2	0	0	0	0	7
SOUTH ATLANTIC												
Delaware:												
Wilmington	0	0	-----	0	23	3	2	0	3	0	0	0
Maryland:												
Baltimore	5	0	5	1	170	12	12	0	47	0	1	98
Cumberland	0	0	-----	0	0	0	0	0	0	0	0	0
Frederick	0	0	-----	0	2	0	0	0	0	0	0	0
District of Columbia:												
Washington	0	0	1	2	0	5	5	0	20	0	0	33
Virginia:												
Lynchburg	0	0	-----	0	4	1	1	0	4	0	0	8
Richmond	0	0	-----	2	12	2	3	0	4	0	0	2
Roanoke	0	0	-----	0	0	0	0	0	0	0	0	0
West Virginia:												
Charleston	1	0	-----	0	0	0	0	0	1	0	0	1
Wheeling	0	0	-----	0	56	0	1	0	0	0	0	6
North Carolina:												
Raleigh	0	0	-----	0	16	0	0	0	0	0	0	0
Wilmington	0	0	-----	1	4	0	0	0	1	0	0	8
Winston-Salem	0	0	-----	0	1	0	3	0	0	0	0	9
South Carolina:												
Charleston	0	0	2	0	2	0	1	0	0	0	0	1
Georgia:												
Atlanta	0	0	7	0	7	0	2	0	1	0	0	2
Brunswick	0	0	-----	0	2	0	1	0	0	0	0	0
Savannah	0	0	1	0	3	0	0	0	0	0	0	2
Florida:												
Tampa	0	0	-----	0	3	0	1	0	0	0	0	3
EAST SOUTH CENTRAL												
Tennessee:												
Memphis	0	0	1	0	164	1	3	0	3	0	0	18
Nashville	0	0	-----	2	12	0	3	0	0	0	0	1
Alabama:												
Birmingham	1	0	8	0	23	2	4	0	0	0	0	2
Mobile	1	0	-----	2	2	0	1	0	0	0	0	0
WEST SOUTH CENTRAL												
Arkansas:												
Little Rock	0	0	-----	0	14	0	2	0	0	0	0	0
Louisiana:												
New Orleans	1	0	-----	0	0	2	13	0	8	0	1	5
Shreveport	0	0	-----	0	0	0	3	0	0	0	0	0
Texas:												
Dallas	2	0	-----	0	4	1	2	1	1	0	0	12
Galveston	1	0	-----	0	7	0	1	0	0	0	0	3
Houston	0	0	-----	0	4	0	9	0	3	0	1	6
San Antonio	0	0	-----	0	1	1	3	0	1	0	0	0
MOUNTAIN												
Montana:												
Billings	2	0	-----	0	10	0	2	0	1	0	0	1
Great Falls	0	0	-----	0	48	0	1	0	0	0	0	3
Helena	0	0	-----	0	22	0	0	0	0	0	0	0
Missoula	0	0	-----	0	34	0	1	0	0	0	0	0
Idaho:												
Boise	0	0	-----	0	0	0	0	0	9	0	0	0

City reports for week ended May 1, 1943—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza cases	Influenza deaths	Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
MOUNTAIN—continued												
Colorado:												
Denver	1	0	8	2	377	0	4	0	10	0	1	3
Pueblo	0	0	------	0	9	1	0	0	1	0	0	16
Utah:												
Salt Lake City	0	0	------	1	60	0	1	0	5	0	0	39
PACIFIC												
Washington:												
Seattle	2	0	------	0	164	1	5	0	4	0	0	19
Spokane	0	0	------	0	52	3	0	0	0	0	0	2
Tacoma	0	0	------	0	12	0	0	0	1	0	0	0
California:												
Los Angeles	4	0	12	3	177	1	2	1	15	0	0	66
Sacramento	2	0	------	0	13	1	5	0	0	0	0	3
San Francisco	0	0	------	0	109	10	18	0	17	0	1	29
Total	84	0	86	41	8,393	221	468	6	1,559	1	11	1,088
Corresponding week, 1942	46	4	67	24	6,463	40	376	2	1,400	3	18	1,432
Average, 1938–42	77	------	128	[1] 30[2]	6,423	------	[1] 388	------	1,571	10	19	1,198

[1] 3-year average, 1940–42.
[2] 5-year median.
Dysentery, amebic.—Boston, 1; New York, 5.
Dysentery, bacillary.—New York, 4; Charleston, S. C., 8; Los Angeles, 1.
Dysentery, unspecified.—San Antonio, 9.
Typhus fever.—Birmingham, 1; New Orleans, 2.

Rates (annual basis) per 100,000 population, by geographic groups, for the 89 cities in the preceding table (estimated population, 1942, 34,707,700)

	Diphtheria case rates	Encephalitis, infectious, case rates	Influenza case rates	Influenza death rates	Measles case rates	Meningitis, meningococcus, case rates	Pneumonia death rates	Poliomyelitis case rates	Scarlet fever case rates	Smallpox case rates	Typhoid and paratyphoid fever case rates	Whooping cough case rates
New England	2.5	0.0	5.0	5.0	1,757	67.1	114.3	0.0	663	0.0	0.0	204
Middle Atlantic	10.3	0.0	8.9	5.8	961	37.9	78.5	1.3	262	0.0	1.8	110
East North Central	21.0	0.0	9.9	3.5	1,986	23.9	53.1	0.6	265	0.6	0.6	158
West North Central	2.0	0.0	4.0	8.0	1,015	42.0	80.0	0.0	180	0.0	2.0	178
South Atlantic	10.1	0.0	27.0	10.1	514	38.8	54.0	0.0	137	0.0	1.7	292
East South Central	11.9	0.0	53.5	23.8	1,194	17.8	65.3	0.0	18	0.0	0.0	125
West South Central	11.7	0.0	------	0.0	88	11.7	96.8	2.9	38	0.0	5.9	76
Mountain	24.1	0.0	64.3	24.1	4,502	8.0	72.4	0.0	209	0.0	8.0	498
Pacific	14.0	0.0	21.0	5.2	921	28.0	52.4	1.7	66	0.0	1.7	208
Total	12.6	0.0	12.9	6.2	1,261	33.2	70.3	0.9	234	0.2	1.7	163

PLAGUE INFECTION IN OAKLAND, CALIF., AND TACOMA, WASH.

Plague infection has been reported in Oakland, Calif., and Tacoma, Wash., as follows:

CALIFORNIA

Alameda County—Oakland: In the spleen of a rat trapped on March 10 at No. 704 Jefferson Street, Oakland, Calif.

WASHINGTON

Pierce County—Tacoma: In pools of fleas and tissue from rats, *R. norvegicus*, taken from frame buildings in industrial sections of Tacoma, Wash., as follows: April 22, in a pool of 150 fleas from 34 rats and in tissue from 1 rat; April 23, in a pool of 50 fleas from 33 rats.

TERRITORIES AND POSSESSIONS

Hawaii Territory

Plague (human).—On May 3, 1943, 1 death from bubonic plague in a 14-year-old male was reported in Honokaa, Hamakua District, Island of Hawaii, T. H. This is the fourth death from plague reported in Hamakua District since March 1, 1943.

Plague (rodent).—During the week ended April 17, 1943, 3 rats proved positive for plague were reported in Hamakua District, Island of Hawaii, T. H., as follows: 1 rat in Honokaa, 1 in Kapulena, and 1 in Paauhau.

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended April 17, 1943.—During the week ended April 17, 1943, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox	1	17		125	267	33	33	22	36	534
Diphtheria		11	1	15	2	8			1	38
Dysentery (amebic)						1				1
Dysentery (bacillary)				4						4
Encephalitis, infectious								1		1
German measles		4		20	152	2	3	23	5	209
Influenza		21	1		157	2	2		126	309
Measles	1	144		360	1,556	105	190	155	235	2,746
Meningitis, meningococcus	2	1	2	4		1			1	11
Mumps	1	111	2	60	1,275	108	110	85	129	1,881
Scarlet fever		18	17	90	353	42	45	29	8	602
Tuberculosis	4	15	9	104	66	15		17	21	251
Typhoid and paratyphoid fever	2			30	2		1			35
Undulant fever				2	1				2	5
Whooping cough		1	1	78	208	59	27	30	51	455

CHILE

Santiago—Cerebrospinal meningitis.—For the 4 weeks ended January 23, 1943, 57 cases of cerebrospinal meningitis with 17 deaths were reported in Santiago, Chile.

REPORTS OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER RECEIVED DURING THE CURRENT WEEK

NOTE.—Except in cases of unusual prevalence, only those places are included which had not previously reported any of the above-mentioned diseases, except yellow fever, during the current year. All reports of yellow fever are published currently.

A cumulative table showing the reported prevalence of these diseases for the year to date is published in the PUBLIC HEALTH REPORTS for the last Friday in each month.

(Few reports are available from the invaded countries of Europe and other nations in war zones.)

Plague

Peru—Libertad Department—Trujillo.—During the month of March 1943, 3 cases of plague with 2 deaths were reported in Trujillo, Libertad Department, Peru.

Smallpox

Algeria.—For the period April 1–10, 1943, 42 cases of smallpox were reported in Algeria, including 13 cases reported in Algiers and 3 in Cheliff.

Indochina.—For the period March 11–31, 1943, 880 cases of smallpox were reported in Indochina, including 45 cases in Annam, 128 in Cambodia, 409 in Cochinchina, and 298 in Tonkin.

Spain.—For the 2 weeks ended March 13, 1943, 12 cases of smallpox were reported in Spain.

Typhus Fever

Algeria.—For the period April 1–10, 1943, 478 cases of typhus fever were reported in Algeria, including 23 cases in Algiers, 33 in Bone, 55 in Oran, and 10 in Mostaganem.

Hungary.—For the period April 11–17, 1943, 39 cases of typhus fever were reported in Hungary.

Mexico—Mexico, D. F.—Typhus fever has been reported in Mexico, D. F., Mexico, as follows: Weeks ended—February 6, 43 cases, 6 deaths; February 13, 60 cases, 8 deaths; February 20, 49 cases, 12 deaths; February 27, 44 cases, 12 deaths.

Rumania.—For the period April 16–30, 1943, 486 cases of typhus fever (including 21 cases in Bucharest) were reported in Rumania.

Slovakia.—For the period March 21–April 10, 1943, 60 cases of typhus fever were reported in Slovakia.

Spain.—For the 2 weeks ended March 13, 1943, 22 cases of typhus fever were reported in Spain.

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